

Geothermal energy development gathers steam

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RENO, Nev. — An unusual combination of economic and environmental forces have created a "perfect storm" that could help geothermal shed its back-seat status to its renewable cousins wind and solar energy, experts said at an international conference Monday.

One after another, state and federal regulators, oil company executives, investor-owned utility officials and private developers recited the conditions in play to an overflow crowd of more than 1,000.

The financial meltdown on Wall Street, soaring oil prices, the volatility of the natural gas market, concern about global warming and a new administration assuming the White House are driving increasing demand for the energy produced by harnessing heat from beneath the earth's surface, they said.

"There is not going to be another opportunity like there is now," said Rebecca Wagner, a former manager at a geothermal development company who serves on the state Public Utilities Commission in Nevada, which has the most potential geothermal power in the country.

"This is the perfect storm of events to prove the geothermal industry is going to help address and possibly solve a lot of our energy issues," she said.

Steve Chalk, deputy assistant U.S. energy secretary for renewable energy, said the nation is "at the cusp of an historic movement in renewable energy."

"We're going through a renaissance now with geothermal — a rebirth," he said.

Thomas Fair, renewable energy executive for NV Energy formerly known as Sierra Pacific Resources, said the 40 percent larger turnout compared with last year's conference is "a sign of what is going on in Nevada and across the country."

Nevada has 10 geothermal power plants generating 325 megawatts of power with 73 more megawatts deliverable by 2010. It has a U.S.-leading 45 projects in the works — more than double the 21 in California, the next busiest state. One megawatt equals 1,000 kilowatts, enough to serve about 1,000 U.S. homes.

The Geothermal Energy Association said new projects are under way in Alaska, Arizona, California, Hawaii, Idaho, New Mexico, Nevada, Oregon, Texas, Utah, Washington and Wyoming.

When developed, the projects will provide up to 3,368 megawatts of new electric power capacity, more than doubling U.S. capacity from 2,936 megawatts in 2006, to nearly 6,304 megawatts, the association said.

More than 2,100 megawatts of known geothermal resources can be easily developed in Nevada — enough to exceed a state requirement that 20 percent of Nevada's total power production be renewable by 2015, said Lisa Shevenell, the director of the Great Basin Center for Geothermal Energy.

"It's great to see growth. It's finally happening. It was dead for a long time," said Shevenell, also a research hydrogeologist at the University of Nevada, Reno.

Paul Brophy, president of the Geothermal Research Council founded in 1970, said tens of thousands of acres of land under the supervision of the U.S. Bureau of Land Management have been leased for geothermal exploration and/or drilling. He has seen dramatic growth in interest from small and large investors — "even renewed interest from some large oil companies."

Gov. Jim Gibbons said 80 percent of the federal acres leased for geothermal projects in the nation are in Nevada, which issues an average of 60 drill permits annually for geothermal projects. That's why he is pressing state and U.S. officials to expedite the leasing process.

"When it takes eight to 13 months to get a geothermal drill permit approved and only 30 days to get an oil well drill approved, we have our work cut out for us," he said.

Yoram Bronicki, president of Reno-based geothermal developer Ormat Technologies, said the industry must do more to promote itself.

"I don't know if we have failed, but we certainly have not succeeded until now to capture the imagination of other people on the public relations level," he said. "Everybody else looks at the wind turbine as the staple of renewable energy."

Barry S. Andrews, senior vice president of Chevron Geothermal — the world's largest producer of geothermal energy, said it is a "critical time for us in the energy field."

"While geothermal has gotten more attention recently, it often seems to take a back seat to solar and wind," Andrews said. Chevron launched an international campaign to promote geothermal last year.

Dan Reicher, director of climate change for Google.org, said his company invested \$10 million as part of a plan announced last year to develop "enhanced geothermal systems" technology to generate energy from rocks deep below the earth's surface.

"It is indeed the sleeping giant of renewable energy," said Reicher, a former assistant U.S. energy secretary. "Indeed, the giant is stirring."